

**IN THE CLAIMS:**

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1-6, and ADD claim 7 in accordance with the following:

1. (Currently Amended) A method of manufacturing an outer race used in a constant velocity universal joint of a tripod type, said constant velocity universal joint comprising a cup body and a shaft extending axially outwardly from a bottom of the cup body in a direction opposite to an open end thereof, said cup body having an inner peripheral surface formed with three axially extending track grooves, said cup body further including a radially outwardly protruding wall portion, aligned with each of the track grooves, and a radially inwardly depressed wall portion aligned with a reduced diameter portion of ~~the~~ peripheral wall of the cup body between each of the neighboring track grooves, said protruding and depressed wall portions being so defined as to alternate with each other in a direction substantially circumferentially of the cup body, each of the reduced diameter ~~portion- portions~~ of the peripheral wall of the cup body adjacent the open end of the latter having a chamfered portion defined at a peripheral lip region of the open end of the cup body,

said method comprising:

comprising an upsetting step-operation in which a reduced diameter portion of a substantially cylindrical member, which eventually defines the shaft, a large diameter portion of the substantially cylindrical member, which eventually defines the cup body, and respective shapes which eventually define the associated chamfered portions are formed by means of an upsetting technique; and

a drawing operation to shape the large diameter portion to a final design dimension and shape by a drawing technique,

said upsetting operation being carried out prior to the drawing operation.

2. (Currently Amended) A method of manufacturing an outer race used in a constant velocity universal joint of a tripod type, said constant velocity universal joint comprising

a cup body and a shaft extending axially outwardly from a bottom of the cup body in a direction opposite to an open end thereof, said cup body having an inner peripheral surface formed with three axially extending track grooves, said cup body further including a radially outwardly protruding wall portion, aligned with each of the track grooves, and a radially inwardly depressed wall portion aligned with a reduced diameter portion of ~~the~~ peripheral wall of the cup body between each of the neighboring track grooves, said protruding and depressed wall portions being so defined as to alternate with each other in a direction substantially circumferentially of the cup body, each of the reduced diameter ~~portion-portion~~s of the peripheral wall of the cup body adjacent the open end of the latter having a chamfered portion defined at a peripheral lip region of the open end of the cup body,

said method comprising:

an upsetting ~~step for making~~ operation to make a generally elongated intermediate member having a small diameter portion and a large diameter portion with an axially inwardly depressed recess defined in an end face of the large diameter portion remote from the small diameter portion, said ~~recesses-recess~~ having a tapered peripheral wall face, which eventually ~~define-define~~ a general shape of each of the chamfered portions;

a cup forming ~~step for shaping~~ operation to shape the elongated intermediate ~~members member~~ to a shape having the cup body by ~~means of~~ a combined pushing method including a forward pushing and a rearward container pushing; and

a drawing ~~step for shaping~~ operation to shape the cup body to a final design dimension and shape by ~~means of~~ a drawing technique.

3. (Currently Amended) The outer race manufacturing method as claimed in Claim 2, wherein the cup forming ~~step-operation~~ is performed by the combined pushing method using a die ~~for forming to form~~ the shaft and the cup body, and a straight punch ~~for forming to form~~ the track grooves and the reduced diameter ~~portion-portion~~s between the ~~neighboring~~ track grooves.

4. (Currently Amended) The outer race manufacturing method as claimed in Claim 2, wherein the drawing ~~step-operation~~ is carried out by using a die ~~for forming to form~~ the cup body, and a punch ~~for forming to form~~ the track grooves, the reduced diameter ~~portion-portion~~s between the neighboring track grooves, and the chamfered portion at one end of each of the reduced diameter portions adjacent the open end of the cup body.

5. (Currently Amended) The outer race manufacturing method as claimed in Claim 3, wherein the drawing ~~step operation~~ is carried out by using a die ~~for forming to form~~ the cup body, and a punch ~~for forming to form~~ the track grooves, the reduced diameter ~~portion- portions~~ between the neighboring track grooves, and the chamfered portion at one end of each of the reduced diameter portions adjacent the open end of the cup body.

6. (Currently Amended) The outer race manufacturing method as claimed in Claim 2, further comprising an axial pushing ~~step operation~~, performed prior to the upsetting ~~step operation~~, ~~for to axially pushing- push~~ a cylindrical rod member to form ~~at the~~ small diameter ~~portion, a portion and the~~ large diameter portion ~~and of the elongated intermediate member, as well as~~ an intermediate portion connecting the small and large diameter portions together and flaring outwardly in a direction from the small diameter portion towards the large diameter portion.

7. (New) A method, of manufacturing an outer race used in a constant velocity universal joint of a tripod type, said outer race including a cup body having a chamfered portion defined at a peripheral lip region of an open end of the cup body, the method comprising:  
    elongating an intermediate member having a recess, said recess having a tapered peripheral wall face, which eventually defines a general shape of the chamfered portion;  
    subsequent to the elongating of the intermediate member, shaping the elongated intermediate member to a shape having the cup body; and  
    subsequent to the shaping of the elongated intermediate member to the shape having the cup body, shaping the cup body to a final design dimension and shape by a drawing technique.

INTRODUCTION:

In accordance with the foregoing, claims 1-6 have been amended, and claim 7 has been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-7 are pending and under consideration.

IN THE DRAWINGS:

The Examiner is respectfully requested to acknowledge whether the drawings filed on January 3, 2002 are acceptable or unacceptable as formal drawings.

CLAIM OBJECTION, AND REJECTION UNDER 35 U.S.C. §112:

In the Office Action, at page 2, item 1, the Examiner objected to claims 1-6 because of informalities.

In the Office Action, at page 2, item 3, the Examiner rejected claims 1-6 under 35 U.S.C. §112, second paragraph, for the reasons set forth therein. This rejection is traversed and reconsideration is requested.

Claims 1-6 have been amended to address the Examiner's concerns, and thereby overcome the objections and the rejections under 35 U.S.C. §112, second paragraph.

Applicants respectfully submit that the objections and the rejections under 35 U.S.C. §112, second paragraph are overcome.

REJECTION UNDER 35 U.S.C. §102:

In the Office Action, at page 3, item 5, claim 1 is rejected under 35 U.S.C. §102(b) in view of JP 20000061576 (JP'576). This rejection is traversed and reconsideration is requested.

JP'576 is a Japanese patent Abstract. Applicants are submitting a computer translated version of the corresponding Japanese application, Hiroshi et al. (hereinafter Hiroshi) concurrently with this amendment.

Amended, independent claim 1 recites "...an upsetting operation in which a reduced

diameter portion of a substantially cylindrical member, which eventually defines the shaft, a large diameter portion of the substantially cylindrical member, which eventually defines the cup body, and respective shapes which eventually define the chamfered portions are formed by an upsetting technique; and a drawing operation to shape the large diameter portion to a final design dimension and shape by a drawing technique, said upsetting operation being carried out prior to the drawing operation.”

Hiroshi is discussed in the Background Section of the present Application, and fails to teach or disclose “...an upsetting operation in which...respective shapes which eventually define the chamfered portions are formed by an upsetting technique; and a drawing operation to shape the large diameter portion to a final design dimension and shape by a drawing technique, said upsetting operation being carried out prior to the drawing operation.”

For example, FIGS. 1 and 2 of Hiroshi appear to disclose chamfered portions at element 13. But as shown in FIG. 3 (a)-(d), the reference fails to teach or disclose that any respective shapes, which will eventually define the chamfered portions 13, are formed in the “upsetting operation” which is prior to shaping of the “...large diameter portion to a final design dimension and shape...” (i.e. the claimed “drawing operation”).

For example, in FIG. 3(b) (which illustrates Hiroshi’s second process), a large diameter portion f, reduced diameter portion d, and a middle taper section e, are formed (para. [0016]). In FIG. 3(c) (the third process), it appears that the large diameter portion f and reduced diameter portion d are further defined into major diameter section h and narrow diameter section g (para. [0016]). But Hiroshi fails to disclose, and the figure fails to show, that any respective shapes, which will eventually define the chamfered portions 13, are formed at this process. Rather, the chamfered portions 13 are formed in the same process as the cup body 1, as shown in FIG. 3(d), by cam fabricating sections P1, P2 and T of punch P (para. [0017-0020]).

Accordingly, Applicants respectfully submit that claim 1 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons.

#### REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 4, item 7, claims 2-6 were rejected under 35 U.S.C. §103 in view of JP ‘576 and Applicant’s Admitted Prior Art (AAPA). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and

reconsideration is requested.

Amended, independent claim 2 recites "...an upsetting operation to make a generally elongated intermediate member having a small diameter portion and a large diameter portion with an axially inwardly depressed recess defined in an end face of the large diameter portion remote from the small diameter portion, said recess having a tapered peripheral wall face, which eventually defines a general shape of each of the chamfered portions; a cup forming operation to shape the elongated intermediate member to a shape having the cup body by a combined pushing method including a forward pushing and a rearward container pushing; and a drawing operation to shape the cup body to a final design dimension and shape by a drawing technique.

Analogous to the argument presented in the discussion of the rejections under 35 U.S.C. §102, FIGS. 1 and 2 of Hiroshi appear to disclose chamfered portions at element 13. But as shown in FIG. 3 (a)-(d), the reference fails to teach or disclose that any "...recess having a tapered peripheral wall face, which will eventually define the chamfered..." portions 13, are formed in the "upsetting operation" which is prior to shaping of the "...large diameter portion to a final design dimension and shape..." (i.e. the claimed "drawing operation").

For example, in FIG. 3(b) (which illustrates Hiroshi's second process), a large diameter portion f, reduced diameter portion d, and a middle taper section e, are formed (para. [0016]). In FIG. 3(c) (the third process), it appears that the large diameter portion f and reduced diameter portion d are further defined into major diameter section h and narrow diameter section g (para. [0016]). But Hiroshi fails to disclose, and the figure fails to show, that any "...recess having a tapered peripheral wall face, which will eventually define the chamfered..." portions 13, are formed at this process. Rather, the chamfered portions 13 are formed in the same process as the cup body 1, as shown in FIG. 3(d), by cam fabricating sections P1, P2 and T of punch P (para. [0017-0020]).

In amended claim 2, logically, the cup forming operation shaping "...the elongated intermediate member to a shape having the cup body..." must occur prior to the drawing operation, in which the cup body is shaped "...to a final design dimension and shape..."

Similarly, the upsetting operation making the "...elongated intermediate member having...a large diameter portion with an axially inwardly depressed recess...having a tapered peripheral wall face, which eventually defines a general shape of each of the chamfered portions..." must logically occur prior to the shaping of "...the elongated intermediate member to a shape having the cup body..." in the cup forming operation.